

NOTES, ABSTRACTS, AND REVIEWS

Dust fall at Portland, Oreg.—On the morning of January 17 there was observed in Portland a very unusual deposit of dust. It covered the snow which lay on the ground at that time, giving it a reddish brown color. It lay on the pavements in such quantities that persons coming into the office from the street left tracks on the office floor at every step. The accumulation of dust on desks and tables in the office was so thick that it was possible to write with the finger anywhere. The dust was so fine as to enter around closed windows. It was entirely different in appearance from the soil found west of the Cascade Mountains, more nearly resembling the volcanic soil of the arid interior.

Investigation showed that all of Oregon was covered by snow at the time, for the deposit occurred during the memorable cold period; therefore the investigation was carried into Washington, and it was learned that severe dust storms occurred in several counties of eastern Washington on the 16th. Prevailing winds were from the north and east and carried the dust over the snow-covered regions in northern Oregon, as shown on the inclosed sketch, which outlines the area over which dust was observed on the dates mentioned. (Not reproduced.)

It will be noted that the dust was not carried to a sufficiently high level to take it over the Cascade Mountains but that enough came through the Columbia Gorge, carried by a strong east wind, to reach Portland and as far as Forest Grove, about 30 miles west of Portland. In places near the mouth of the Columbia Gorge, east of Portland, the dust deposit was sufficiently heavy so that when the snow had partly melted the dust made a solid coating, hiding the snow banks entirely.

At this station the wind was mostly from the east on the dates mentioned, the average velocity for the two days being 16.3 miles an hour. Through the Columbia Gorge the velocity was undoubtedly much greater than this.—*Edw. L. Wells.*

Rudolph Meyer, Die Haloerscheinungen (viii, 168 pp., Hamburg, 1929).—This volume is No. 12 in the useful series *Probleme der Kosmischen Physik*; the intention of editors to have it written by E. Barkow was frustrated by the untimely death of the latter, but a worthy substitute was found in Meyer, of Riga, who was already known in this field through his previous publications on halos.

As the author remarks in his preface, the subject of halos is, in its entirety, a very extensive one, and a work of this character must necessarily be incomplete. An effort has been made to interest and instruct as wide a circle of readers as possible, rather than to write for the specialist only. The book is entirely nonmathematical.

The author has succeeded in summarizing a large amount of information and opinion concerning a very wide range of topics and has produced a valuable supplement to the already existing treatises on halos. Many of the observed halos which are described are not to be found in the standard current reference works on meteorological optics. It should be noted that the Boulder halo, figured on page 101, was observed in January instead of in June.—*Edgar W. Woolard.*

The great frost in British Isles of February, 1895.—In the issue of *Nature* (London) of February 8, 1930, there appears under the title *Historic Natural Events* an account of what is called the great frost of the early part of 1895 in the British Isles.

The greatest intensity of the cold was experienced during the period January 26 to February 19, 1895, when an absolute minimum of -17° F. was registered at Braemar and -11° F. at Buxton. The great frosts, as periods of low temperature are called in Great Britain, was the most severe in that country since 1813–14, but in Europe the winter, though severe, was not so rigorous as in 1879–80.

It so happened that February, 1895, was exceptionally cold in the central, southern, and eastern parts of the United States. The average departure from the normal for the East Gulf States was -13.3° F. and for individual stations a greater amount. While the primary cause of the low temperatures in both countries was the prevailing pressure distribution, the final results were brought about in a somewhat different way. In England the prevailing winds were from the east, due to strong anticyclones moving toward the east across Scandinavia, and in the United States the cold winds were from the northwest, due to the southeastward movement of strong anticyclones. A single strong anticyclone with central pressure above 31 inches on three consecutive maps dominated the weather in the early days of the month; and a ridge of high pressure, or wind divide, prevailed from the 6th to the 16th, and at the same time pressure was low in the northeastern part of the country, thus prolonging and intensifying the drift of cold continental air toward the Gulf of Mexico and the Atlantic.

The occurrence of large temperature anomalies in the same sense at widely separated parts of the globe is perhaps to be expected.

As we have already seen, the pressure distribution for the time and place was apparently responsible for the low temperatures, but we should like to go a step farther and inquire why should anticyclonic pressure conditions so thoroughly dominate the weather at some places and in some parts of the globe and not in others?—*A. J. H.*

New Arctic weather stations.—The Russian ice breaker *Sedov* left Archangel last July, carrying the staff, building materials, supplies, and equipment for the world's most northerly weather station, which was established the following month at Calm Bay, Hooker Island, Franz Josef Land, in latitude $80^{\circ} 19' N.$, longitude $52^{\circ} 48' E.$ The staff of seven men is to be relieved annually, provided ice conditions permit a ship to reach them, and the station is provisioned for three years. The station reports its observations by radio, using a short-wave transmitter, and is also equipped for long-wave reception. Pilot-balloon observations form part of its program for the present year. Later more extensive scientific work will be undertaken and an airplane will be added to the equipment.

The earliest meteorological observations in Franz Josef Land were those taken by the Austrian expedition of 1873–74, under Weyprecht and Payer, and some series have been taken by later expeditions, but none between the year 1914 and last summer. The first radiogram was sent from the new station on August 30, 1929.

Similar radio stations were established last summer by the Russians at Wrangel Island and at Bulun (latitude $70^{\circ} 45'$), on the River Lena, making a total of 11 Russian stations at which weather observations are taken and reported by radio the year round on the shores and islands of the Arctic Ocean.—*C. F. Talman, in Why the Weather, Science Service, Washington, D. C.*

Meteorological summary for Chile, January, 1930 (by J. Bustos Navarrete, Observatorio del Salto, Santiago, Chile).—The diminution in activity of solar radiation coincided with a noticeable weakening of atmospheric circulation over the South Pacific. The number of depressions was very small, and the paths of these were shifted very much toward the south. Unsettled weather and rains were generally limited to the southern part of the continent between Magallanes and Chiloe; in the remainder of the country, from Valdivia northward, conditions were very stable.

Temperatures were not very high in the central zone, rarely exceeding 86° to 90° F., in contrast to much higher readings in previous years.

On the central and northern coasts the mornings were frequently cloudy or foggy.

The only anticyclonic centers worth mentioning were those charted on the 6th, 12th, 15th, and 25th and moving for the greater part from latitude 40° to 45° S. toward Argentina.—*Translated by W. W. R.*

Death of Dr. L. Coussirat de Araujo in charge of the meteorological service of Rio Grande do Sul, Brazil.—We regret to learn of the death in February of this year of Prof. Dr. Ladislau Coussirat de Araujo in his fortieth year. Doctor Araujo at the time of his death was the director of the Instituto Astronomico e Meteorologico, Escola Engenharia, of Porto Allegro, Brazil. He was a distinguished civil engineer with strong leanings toward meteorology and was in charge of the meteorological service of the State of Rio Grande do Sul. His meteorological education was received in France, England, and the United States.—*A. J. H.*

BIBLIOGRAPHY

C. FITZHUGH TALMAN, in Charge of Library

RECENT ADDITIONS

The following have been selected from among the titles of books recently received as representing those most likely to be useful to Weather Bureau officials in their meteorological work and studies:

Dines, L. H. G.

Dines balloon meteorograph and the method of using it. London. 1929. iv, 47 p. figs. plates. 24½ cm. (Met. off. 321.)

Fassig, Oliver L.

On the Frequency of hurricanes in the vicinity of Porto Rico. 10 p. figs. plate. 27 cm. (Repr.; Porto Rico Journ. pub. health & tropical med., v. 5, no. 2, Dec., 1929.)

Forel, F. A.

"Seiches" of lakes. 5 p. 22 cm. (Le Guide scient., Oct., 1885.)

Gião, Antonio.

La mécanique différentielle des fronts et du champ isallobarique. Paris. 1929. 127 p. figs. plates. 33 cm. (Off. nat. mét. France. Memorial. No. 20.)

Ginestous, G.

La richesse en vapeur d'eau de l'atmosphère dans le Sud tunisien. Son action sur la vie végétale. Tunis. 1928. 8 p. 24½ cm. (Extr.; Bull. de la dir. gén. de l'agric., du comm. et de la colonis. 3e trim. 1928.)

Une zone d'extension possible de la culture de l'olivier à signaler aux oléiculteurs tunisiens. 11 p. plate. 24½ cm. (9e cong. internat. d'oléicult. Tunis, Sousse. Sfax (Tunisie) du 26 oct. au 8 nov., 1928.)

Hutchinson, Howard B.

Fog situation in the United States During the Winter 1928-29. Cambridge. 1930. 25 p. plates. 28 cm. (Mass. inst. tech. Met'l course. Prof. notes, no. 3.)

Kleinschmidt, E.

Die Häufigkeit dürre und nasser Monate in Württemberg und Hohenzollern. Stuttgart. 1929. p. 186-205. figs. 28½ cm. (Sonderab.; Württemberg. Jahrb. für Statistik und Landes. Jahrg. 1928.)

Simpson, G. C.

Past climates. (The Alexander Pedler lecture, 1929.) Manchester. 1930. 34 p. figs. 21½ cm. (Manchester lit. & philos. soc. Sess. 1929-30. Mem. & proc. v. 74.)

SOLAR OBSERVATIONS

SOLAR AND SKY RADIATION MEASUREMENTS DURING FEBRUARY, 1930

By HERBERT H. KIMBALL, Solar Radiation Investigations

For reference to descriptions of instruments and exposures, and an account of the method of obtaining and reducing the measurements, the reader is referred to this volume of the REVIEW, page 26.

Table 1 shows that solar radiation intensities were close to the normal intensity for February at Washington, D. C., and slightly below at Madison, Wis., and Lincoln, Nebr.

Table 2 shows a deficiency in the total solar radiation received on a horizontal surface directly from the sun and diffusely from the sky at Madison, Lincoln, New York, Fresno, and La Jolla, and an excess at Washington, Twin Falls, and Chicago, as compared with the normal amount received at the respective stations in February.

No skylight polarization measurements were obtained at Madison during the month. At Washington measurements obtained on four days give a mean of 63 per cent and a maximum of 66 per cent on the 10th. These values are slightly above the corresponding averages for February at Washington.